



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>7</sup> : A61K 9/127, 38/19, 39/39, 38/28</p>	A1	<p>(11) International Publication Number: <b>WO 00/44350</b></p> <p>(43) International Publication Date: 3 August 2000 (03.08.00)</p>
<p>(21) International Application Number: PCT/EP00/00598</p> <p>(22) International Filing Date: 26 January 2000 (26.01.00)</p> <p>(30) Priority Data: 99101480.4 27 January 1999 (27.01.99) EP</p> <p>(71) Applicant (for all designated States except US): IDEA AG [DE/DE]; Frankfurter Ring 193a, D-80807 Munich (DE).</p> <p>(72) Inventors; and</p> <p>(75) Inventors/Applicants (for US only): CEVC, Gregor [DE/DE]; Erich-Kästner-Weg 16, D-85551 Kirchheim (DE). CHOPRA, Amla [IN/IN]; A/21A, Ashok Vihar, Ohase 1, Delhi 110 052 (IN). STIEBER, Juliane [DE/DE]; Clemensstrasse 74, D-80769 Munich (DE).</p> <p>(74) Agent: VOSSIUS &amp; PARTNER; P.O. Box 86 07 67, D-81634 Munich (DE).</p>	<p>(81) Designated States: AU, BR, CA, CN, HU, JP, KR, MX, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p><b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>	
<p>(54) Title: TRANSNASAL TRANSPORT/IMMUNISATION WITH HIGHLY ADAPTABLE CARRIERS</p> <p>(57) Abstract</p> <p>The invention deals with the transport of preferably large molecules across nasal mucosa by means of specially designed, highly adaptable carriers loaded with said molecules. One of the purposes of making such formulations is to achieve non-invasive systemic delivery of therapeutic polypeptides, proteins and other macromolecules; the other intent is to overcome circumstantially the blood-brain barrier by exploiting the nasal cavity to enter the body and then to get access to the brain. A third intent is to achieve successful protective or tolerogenic immunisation via nasal antigen or allergen administration.</p>		

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/00598

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K9/127 A61K38/19 A61K39/39 A61K38/28

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 475 160 A (CEVC GREGOR) 18 March 1992 (1992-03-18) cited in the application page 1, line 1-6 examples claims  ----- -/-	4,5

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

## \* Special categories of cited documents :

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&amp;\* document member of the same patent family

Date of the actual completion of the international search

15 June 2000

Date of mailing of the international search report

28/06/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Muller, S

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DATABASE MEDLINE 'Online! US NATIONAL LIBRARY OF MEDICINE (NLM), BETHESDA, MD, US ALMEIDA A J ET AL: "Nasal delivery of vaccines." XP002107393 abstract -& JOURNAL OF DRUG TARGETING, (1996) 3 (6) 455-67. REF: 125 JOURNAL CODE: B3S. ISSN: 1061-186X., XP002109107 Switzerland abstract page 458 -page 462	1-53
A	WO 90 09385 A (LIPOSOME CO INC) 23 August 1990 (1990-08-23) page 3, line 17-34 page 9, line 6-17 claims	1
A	WO 92 04009 A (UNIV LONDON PHARMACY) 19 March 1992 (1992-03-19) page 1, line 3-7 page 3, line 21-32 page 6-7; example 1 page 14; example 2 claims	1-53
A	CEVC G: "Transfersomes, liposomes and other lipid suspensions on the skin: permeation enhancement, vesicle penetration, and transdermal drug delivery" CRITICAL REVIEWS IN THERAPEUTIC DRUG CARRIER SYSTEMS, vol. 13, no. 3-4, 1996, pages 257-388, XP002107366 page 316 -page 321	1

## INTERNATIONAL SEARCH REPORT

information on patent family members

Inter. Patent Application No

PCT/EP 00/00598

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0475160	A	18-03-1992	DE 4107152 A	10-09-1992
			DE 4107153 A	10-09-1992
			AT 134133 T	15-02-1996
			CA 2067754 A	25-02-1992
			DE 59107402 D	28-03-1996
			DK 475160 T	08-07-1996
			WO 9203122 A	05-03-1992
			ES 2085936 T	16-06-1996
			JP 5502042 T	15-04-1993
			WO 9009385	A
AU 639228 B	22-07-1993			
AU 5173690 A	05-09-1990			
CA 2045469 A	18-08-1990			
DE 69027022 D	20-06-1996			
DE 69027022 T	28-11-1996			
DK 458894 T	07-10-1996			
EP 0458894 A	04-12-1991			
ES 2089011 T	01-10-1996			
JP 5500203 T	21-01-1993			
KR 157428 B	16-11-1998			
US 5200393 A	06-04-1993			
WO 9204009	A	19-03-1992		
			JP 6505701 T	30-06-1994